

## CLAIMS:

1. A rewritable optical data storage medium (20) for high-speed recording by means of a focused radiation beam (10), said medium (20) comprising a substrate (1) carrying a stack (2) of layers, which stack (2) comprises, a first dielectric layer (3), a second dielectric layer (5), and a recording layer (4) of a phase-change material of an alloy  
5 comprising Sb and Te, the recording layer (4) being interposed between the first dielectric layer (3) and the second dielectric layer (5), characterized in that the alloy additionally contains 2 – 10 at.% of Ga.
2. An optical data storage medium (20) as claimed in Claim 1, wherein the alloy  
10 contains 3 – 7 at.% of Ga.
3. An optical data storage medium (20) as claimed in Claim 1 or 2, wherein the alloy furthermore contains 0.5 – 4.0 at.%, preferably 0.5 – 2.5 at. % of Ge.
- 15 4. An optical data storage medium (20) as claimed in any one of Claims 1 - 3, wherein the atomic Sb/Te ratio is between 3 and 10.
5. An optical data storage medium (20) as claimed in Claim 4, wherein the atomic Sb/Te ratio is between 3 and 6.  
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6. An optical data storage medium (20) as claimed in Claim 1, wherein a metal reflective layer (6) is present adjacent the second dielectric layer (5) at a side remote from the first dielectric layer (3).
- 25 7. An optical data storage medium (20) as claimed in Claim 6, wherein an additional layer (8) is present sandwiched between the metal reflective layer (6) and the second dielectric layer (5) screening the metal reflective layer (6) from a chemical influence of the second dielectric layer (5).

8. An optical data storage medium as claimed in Claim 7, wherein the additional layer (8) comprises  $\text{Si}_3\text{N}_4$ .
9. An optical data storage medium (20) as claimed in Claim 1, wherein the  
5 recording layer (4) has a thickness smaller than 20 nm.
10. Use of an optical data storage medium (20) according to any one of the preceding Claims for high data rate recording with a recording speed of at least 16 m/s.